How to plan your studies
Requirements

- time frame: three semesters to three years
- choose a mentor
- minimum of 90 credits
  - Prerequisites?
  - General courses: 21 credits
    - Methods in Computer Science: 10 credits
    - Advanced Courses: 9 credits
    - Humanities: 2 credits
  - Core courses: 30 credits
    - Areas: Sequences, Systems, Structure
  - Lab rotations: 9 credits
    - Areas: Computer Science, Bioinformatics, Experimental Biology
  - Thesis: 30 credits
Disclaimer

Personal point of view!
No secret tipps and tricks!
The mentor

- he/she won't be like your dad/mum
- if you want advice, you will have to take the initiative
- mentor is actually not that important
- strategies to choose
  - does their research interest me?
  - do I like the course they teach?
  - do they seem nice?
The courses

- Core courses: pretty straight forward, since choice is limited
- General courses: tricky
- Strategies to choose:
  - read their description, check form of examination
  - talk to friends and senior students (e.g. moellesi@ethz.ch)
  - go to many lectures in the first weeks of the semester
- beware of/look for overlaps
## My courses

<table>
<thead>
<tr>
<th></th>
<th>Fall 2014</th>
<th>Core</th>
<th>General</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>Computational Biology</td>
<td>6 Sequences</td>
<td>Sequences</td>
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<tr>
<td>4</td>
<td>Computational Systems Biology</td>
<td>6 Systems</td>
<td>Systems</td>
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<tr>
<td>5</td>
<td>Evolutionary Dynamics</td>
<td>5 Systems</td>
<td>Structures</td>
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<tr>
<td>6</td>
<td>Machine Learning</td>
<td>6 Methods in CS</td>
<td>Seminar</td>
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<tr>
<td>7</td>
<td>Weltmehrung und Agrarnaerkte</td>
<td>2 Humanities</td>
<td>33</td>
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<tr>
<td>8</td>
<td>Introduction to Neuroinformatics</td>
<td>6 Advanced</td>
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<td>1</td>
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<td></td>
<td><strong>Spring 2015</strong></td>
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<tr>
<td>2</td>
<td>Statistical Models in CBiology</td>
<td>5 Sequences</td>
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<tr>
<td>3</td>
<td>Protein Crystallography</td>
<td>3 Structures</td>
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<td>4</td>
<td>Complex Networks</td>
<td>4 Advanced</td>
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<tr>
<td>5</td>
<td>CBB Seminar</td>
<td>2 Seminar</td>
<td>Lab</td>
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<td>6</td>
<td>Labs</td>
<td>9 Lab</td>
<td>Total 80</td>
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<tr>
<td>2</td>
<td>Uncertainty Quantification</td>
<td>4 Methods in CS</td>
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<tr>
<td>3</td>
<td>× Scientific Databases</td>
<td>4 Sequences</td>
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<tr>
<td>4</td>
<td>Molecular Evolution, Phylogenetics and Phylodynamics</td>
<td>6 Sequences</td>
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<td>5</td>
<td>Wissenschaftsphilosophie</td>
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<td>6</td>
<td>Quantitative Policy Analysis and Modeling</td>
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<td>7</td>
<td>Algorithms Lab</td>
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<td>8</td>
<td>× Computer Assisted Drug Discovery + Lab</td>
<td>4 Lab</td>
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</tbody>
</table>
My courses

- **Fall 2014**
  - Computational Biology (Sequences)
  - Computational Systems Biology (Systems)
  - Evolutionary Dynamics (Systems)
  - Machine Learning (Methods in CS)
  - Welternährung und Agrarmärkte (Humanities)
  - Introduction to Neuroinformatics (Advanced)
  - Total credits: 31
My courses

- Spring 2015
  - Statistical Models in Computational Biology (Sequences)
  - Protein Crystallography (Structures)
  - Complex Networks (Advanced)
  - CBB Seminar
  - Lab rotations
  - Total credits: 23
My courses

- Fall 2015
  - Uncertainty Quantification (Methods in CS)
  - Molecular Evolution, Phylogenetics and Phylodynamics (Sequences)
  - Algorithms Lab, Wissenschaftsphilosophie (Fun!)
Lab rotations

- may be the trickiest part of planning your studies
- strategies to incorporate lab rotations:
  - full time in semester breaks
  - part time during semester along with courses
  - finish courses first, then do lab rotations
  - do two rotations at the same group
- strategies to choose:
  - read about research of group
  - talk to your favourite professor
  - talk to friends or senior students (e.g. moellesi@ethz.ch)
My lab rotations

- **Bioinformatics**
  - Computational Systems Biology group with Prof. Stelling
  - Topic: *Exploration of chemical reaction networks ODE models using the Topological Filtering method*
  - lots of coding in Matlab, supervised by a cool Post-Doc

- **Experimental Biology and Computer Science**
  - Prof. Werner's group in Molecular Health Science
  - Topic: *Finding miR-29b targets in the nucleus of keratinocytes*
  - part time work in the lab and coding at home, supervised by another cool Post-Doc
Some more comments

- Job as Research Assistant
- Cortona Week
Questions?
Ask now or send them to moellesi@ethz.ch